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ABSTRACT

This study sought to test the predictive power of the hypothesis that in formal organizations, groups of complementary (different) psychological types will perform two types of tasks more efficiently and effectively than groups consisting of compatible psychological types. The Myers/Briggs Type Indicator (MBTI) of Jungian personality types was distributed to the superintendent and principals in 25 randomly selected school districts in a southwestern state in order to determine compatible and complementary personality types, and 10 compatible and 10 complementary management teams were identified from this group to participate in the next phase of the study. The structured and ambiguous tasks for the study were designed according to Fiedler's (1967, 1971) contingency model. The researcher visited each school site to administer the structured and ambigous tasks and to record the time used by each team to complete the tasks. Results were submitted to a panel of judges to establish a numerical score of performance. The structured task for the study was the completion of two bus routes, while the ambiguous task was to consider a case study, reach consensus on the team's position, and defend that position in a paper. The study confirms findings of both small-group and contingency theorists that the type of task and interpersonal relations are variables affecting task team performance. However, it appears that psychological type of task team members is a more significant factor when performing an ambiguous task than in performing a structured task. A bibliography is included, and statistical correlations for each group are appended. (TE)

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INTRODUCTION

Formal organizations are formed when there is a common purpose and people are willing to communicate and contribute effort to accomplish that purpose (Barnard, 1946). Organizational growth and other related factors cause organizations to add people who become members for a variety of reasons. Leadership studies are directed toward maximizing efforts of the individual to fill the common purpose of the organization. Interrelations and interactions that occur in organizations between leader-follower and follower-follower fulfill personal and psychological needs of the individual. When those needs are satisfied, the individual then has the capacity to concentrate effort toward accomplishment of organizational purpose.

Fleishman (1973) offered a definition of leadership that has implications for the direction of renewed leadership studies. Leadership was defined as "...attempts at interpersonal influence directed through the communication process, toward the attainment of some goal or goals" (p.3) Fleishman indicated that studies made by himself and Peters with managers at the Proctor and Gambel Company showed a number of significant relations between managers' interpersonal values and their exercise of consideration and structure. Fleishman (1973) stated, "Personality aspects of leader-group relations need to be reconsidered" (p. 182).

Fiedler (1967) and House (1971) have developed theories in the contingency approach to leadership. In this approach, it is necessary to

specify the conditions that define the relationship between leader traits, subordinate characteristics and situational variables (Szilagyi, 1980; Fleishman/Hunt, 1973; Hunt/Larson, 1974; Hoy/Miskel, 1982). Each of the models developed by House and Fiedler relates to the two major dimensions of Fleishman's definition of leadership, that of interpersonal influence and communications.

Contingency models make "...the assuption that managers can alter their behavior at will, but managers are influenced by their own personalities, their own ingrained rigidities and flexibilities" (Zierden, 1980, p. 28). In order to operationalize the contingency theories, managers must consciously perform a three-step process of analyzing the situation, selecting a behavior, and performing the behavior (Zierden, 1980). As the managers perform these three steps, they need to understand the importance of their own personalities as well as the personalities of the subordinates. Manager-subordinate interaction and consequent performance are influenced by the personal characteristics of all the participants. Manager behavior does not stand alone. Subordinates' perceptions and methods of reacting to the behavior must be accounted for in order to determine effectiveness. The subordinate's own personality will affect how s/he perceives manager behavior and whether or not it is appropriate to fill his/her needs in a given situation. The importance of personality as a variable in the social system of an organization was addressed by Getzels when he stated, "We must also know the nature of the individual inhabiting the roles and their modes of perceiving and reacting to the expectations... Personality is a conception of what lies behind specific acts and within the individual" (Getzels et al., 1968, pp. 66, 69). Personality can be defined as the combination of human

characteristics of variables that may be employed to define or type an individual (Szilagyi, 1980).

Jung, the Swiss psychologist, (cited in Myers, 1982) provided a theoretical tool that permits individuals to be typed according to the way they perceive and react to situations. Managers can use this tool in analyzing a situation by considering their own methods of perceiving and reacting, as well as those of the subordinates. Jung theorized that what appears to be random variation in human behavior is actually orderly and consistent and reflects certain basic differences in the way a person prefers to use perception and judgment of a situation. Perception is understood to include the process of becoming aware of things, people, problems, occurrences and ideas. Judgment includes the process of coming to conclusions about what has been perceived (Myers, 1980; Doering, 1972: Mason and Mitroff, 1973; McCaulley, 1977).

Objectives

The purpose of this study was to test the predictive power of the presumption that suggests groups of complementary (different) psychological types will perform two types of tasks more efficiently (time on task) and effectively (degree of accomplishment) than groups consisting of compatible (similar) psychological types.

The specific questions to be answered in this study were as follows:

1. Do superordinate/subordinate task teams consisting of compatible (similar) psychological types perform structured tasks more efficiently and effectively than teams consisting of complementary (different) psychological types?
2. Do superordinate/subordinate task teams consisting of compatible (similar) psychological types perform ambiguous tasks more efficiently and effectively than teams consisting of complementary (different) psychological types?

Theoretical Framework

The theoretical framework for this study included contingency theory, especially the theories of Fiedler (1967) and House (1971), and the theory of psychological types as described by Jung (cited in Myers/Briggs, 1974, 1982) and operationalized by Myers/Briggs. Myers/Briggs (1974) developed the Myers/Briggs Type Indicator (MBTI) as a means of measuring the variables in Jung's Personality Typology (Myers, 1982; Carlyn, 1977, McCaulley, 1977).

Fiedler (1976) contended that interpersonal relations are determined by the leader's style, measured by LPC, and situational favorableness, which includes task structure and position power of the leader. The leader's style was labeled as either Initiating Structure or Consideration. House (1971) established that interpersonal relations are not dependent on the personal characteristics of the leader alone, but also on the personal characteristics of the subordinate. House (1971), also described leader behavior in terms of Initiating Structure or Consideration.

It is an over simplistic view to consider only the leader's style or the subordinate's perception of that style as being one of Initiating Structure or Consideration as the determining factor in interpersonal relations and consequent task team performance. Interpersonal relations are established by the harmonious blending of all personality characteristics with respect to the nature of the task to be accomplished.

Research regarding cognitive style (Rowe, Bennis, Boulgarides, 1984; Henderson and Nutt, 1980) has demonstrated that ways of perceiving and judging or reacting to information play a dominant role in the way individuals respond to stimuli, solve problems, interact with others and make decisions. When individuals of a task team have like profiles, as

measured by the MBTI, maximum communication and cooperation are possible, because the problem being perceived and the process of coming to conclusions are identical. Although communications would be at an optimum with this type of team, it does not make the strongest task team to perform ambiguous tasks. When members are prone to "see" the same problem and react in the same way, they are also prone to overlook the same problem areas and may not be able to identify alternate solutions (Doering, 1972; McCaulley, 1977; Blaylock, 1983).

Methodology

The instruments utilized to gather data for this study were the Myers/Briggs Type Indicator (MBTI), and structured and ambiguous tasks designed and piolot tested by the researcher of this study. The MBTI was distributed to the superintendent and principals in 25 randomly selected school districts in a southwestern state. In each district, the superintendent and principals were asked to complete the MBTI and return it to the researcher. As the instruments were returned, they were scored to determine the psychological type of each team member, which determined the identification of the management team as either a compatible or complementary team.

The structured and ambiguous tasks for this study were designed to coincide with the structured and ambiguous tasks designed by Fiedler (1967, 1971) in validating the contingency model. Criteria were established for judging efficient and effective performance of the structured and ambiguous tasks.

The researcher visited each school site to administer the structured and ambiguous tasks. The role of the researcher was to distribute the necessary materials, give directions, and to record the time used by each

team to complete the tasks. The researcher collected the material when the tasks were completed, sealed the information in an envelope and submitted these materials to a panel of judges to establish a numerical score of each team's performance. The use of a panel of judges as a method of establishing a numerical score of performance was also similar to Fiedler's (1967, 1971) research of the Contengency Theory.

Data Source

The sample of subjects for this study was selected from the population of superintendent/principal management teams in independent school districts in a southwestern state. Ten compatible and ten complementary management teams were identified from this group to participate in the next phase of the study. The management team, consisting of one superintendent and two principals, was used as the unit of analysis. Each management team selected for participation in the study completed the structured and ambiguous tasks. Data collected from the performance of these tasks were used to determine efficient and effective task team performance.

Findings

The Myers/Briggs Type Indicator was distributed to superintendents and principals in twenty-five randomly selected school districts in a southwestern state. Administrators in twenty-four districts completed and returned the MBTI's from which ten complementary and fourteen compatible teams were identified. All ten of the complementary and the first ten compatible teams identified were selected to participate in the tasks completion phase of the study.

Each team selected for the study first completed a structured task and then an ambiguous task. To determine if a statistically significant ($p > .05$) difference existed between the mean scores in the time necessary for

each team to complete the tasks and the effective performance of the tasks, four separate t-tests were calculated. A seperate t-test was calculated for time on structured task, time on ambiguous task, effective performance of the structured task and effective performance of the ambiguous task.

Psychological Types/Management Style of Participants

Compatible teams were identified as those teams in which a majority of the team members had the same Management Tree style and Psychological Type. Table 1, Appendix A presents the ten compatible teams demonstrating the management style and psychological type of each team member. Complementary teams consisted of members with different management style and psychological types and are presented in Table 2, Appendix A.

Management style and psychological type are a combination of four polarity components. Table 1 reflects data regarding the polarity distribution of participants in this study.

TABLE 1
Psychological Type/Polarity Distribution

Polarity		N	%
Extraversion	(E)	26	43
Introversion	(I)	34	57
Sensing	(S)	46	77
Intuiting	(N)	14	23
Thinking	(T)	50	83
Feeling	(F)	10	17
Judging	(J)	49	82
Perceptive	(P)	11	18

Structured Task

The structured task for this study was the completion of two bus routes. Performance on the task was determined by the time required to complete the task and the total miles of the routes. The assumption was made that since the majority of compatible team members possessed the same

orientation to life, methods of perceiving information and making decisions, they would individually perceive the information in the same manner and come to similar conclusions. Consequently, team consensus would be reached with a minimum of team interaction. The converse of this assumption was made for complementary teams. Team consensus would be more time consuming because individual team members had different orientations to life, methods of perceiving information and making decisions.

Analysis of the structured task data revealed that the mean scores of the compatible and complementary teams were 38.8 and 47.4 respectively, in the time required to perform the structured task.

The t-test utilized to determined significant difference in team performance was not significant beyond the .05 alpha level of significance with the mean scores of 38.8 and 47.4 yielding a t-probability of .0697 (see tables 3, 4).

There was also no significant difference at the .05 alpha level of significance between compatible and complementary teams' effective performance of the structured task. The mean effectiveness score for compatible teams was 176 and complementary teams 178.3, yielding a t-probability of .4117 on effective performance of the structured task (see tables 5, 6).

Interpretation of the Data

When interpreting structured task, data revealed two factors were considered. The first of these was the nature of the structured task itself. In the performance of a structured task directions to task performance are clearly specified, verified and programmed in a step-by-step manner. Consequently, alternate solutions to task performance are limited and expectations of similar performance results by different groups

are predictable. The results of compatible and complementary teams' performance of the structured task in this study verified that prediction. The mean difference in the time required by compatible and complementary teams to complete the task was 9.6 minutes. The mean difference between the school bus routes developed by the two types of teams was 2.3 miles. Neither of these mean differences was statistically significant at the .05 level.

The second factor to consider was the manner in which individuals used the components of psychological type. When interpreting the data provided by the structured task and relating it to the supporting literature review of the research on psychological type, it seemed plausible to offer an explanation of the similarity of performance by compatible and complementary teams on the structured task. The use of the continuum of the four components of psychological type is analogous to right-handedness, left-handedness. The preference indicated by the MBTI is the method people will use if the environment permits them to do so. In a structured task which is clearly delineated, perceptual differences are minimized. The implicit directions toward task accomplishment may indeed force individuals with a perceptual preference for intuition to rely more heavily on their sensing mode for this task.

Decisions are made once information is perceived. One of the major differences between people who make decisions in the Thinking or Feeling mode is their consideration of others in the decision making process. Feelers tend to make more personal decisions, thinkers make more impersonal decisions. The structured task in this study did not involve direct personal decisions. The directions to task accomplishment emphasized that effectiveness was measured by distance alone. Task teams were instructed

in both the written and verbal directions that criteria such as crossing main highways, travel on unimproved roads, or the time any one student rides the bus were not considered for the study. These directions, in effect, may have removed personal considerations from the task, allowing feelers to rely more heavily on their thinking mode to make this decision. Consequently, it is possible that both perceptual and decision-making process differences were minimized to the point that all participants were utilizing the same perceptual and decision-making process.

If this indeed were the case, the following logic sequence applies to the accomplishment of the structured task in this study. The psychological type of all team members was similar in that each participant used his/her sensing and thinking process to resolve the task. When team composition, determined by psychological type similarities and differences of team members, is a factor in determining task accomplishment, this variable was eliminated when all team members used the same perceptual and decision making process. Consequently if there were no differences in task team composition, then no difference in either efficient and effective performance of the task could be expected to occur. The two types of teams would then perform the task in a similar manner.

Ambiguous Task

The ambiguous task utilized in this study had each task team consider a case study, reach consensus of the team's position and defend that position in a paper. Efficient performance was determined by the total time required to complete the task. Total time was subdivided into three components: (1) the time required to study the case and reach consensus of the team's position; (2) the time required to formulate a defense in a position paper; and (3) the total time required to complete the task.

Effective performance was determined by the degree to which the team's position was defended in the paper.

Analysis of the efficient data of the ambiguous task revealed there was no significant difference in the mean time of compatible and complementary teams in reaching consensus. Compatible teams were able to study the case and reach consensus on the renewal/nonrenewal decision with a mean time of 40.1 minutes. The mean time for complementary teams to complete this phase of the ambiguous task was 50.0 minutes. A comparison of means for compatible and complementary teams using a t-test produced a t-value of 1.5933 and t-probability of .1285. Considering significant difference at the .05 level, no statistically significant difference was observed in the time required by compatible and complementary teams in this study to reach consensus on the renewal/nonrenewal decision.

The second phase of the ambiguous task was completed once consensus was reached by each team. In this phase of the task, each team was required to formulate a defense of their decision and to write a position paper in such a manner that a panel of independent judges scoring the papers would concur with their decision. A statistically significant difference was observed in the time required by compatible and complementary teams to complete this phase of the task. Compatible teams completed this phase of the task with a mean time of 11.4 minutes while a mean time of 21.6 minutes was required by complementary teams. This mean difference was significant at the .0034 alpha level.

Comparison of compatible (51.5 minutes) and complementary (71.6 minutes) mean scores on the total time required to complete the ambiguous task revealed that compatible teams required significantly less time to complete the task than did complementary teams. This difference was

significant at the .0078 alpha level. Tables 7, 8, 9, and 10 Appendix A reflect efficiency data on phases of the ambiguous task as well as the completed task.

The second criterion established to determine performance on the ambiguous task was effectiveness. The objective in the ambiguous task of this study was to state the team's position on a contract renewal/ nonrenewal issue and to defend that position in a paper in such a manner that three independent judges would concur with the team's decision. Effective performance was determined by the judges rating the position paper written by each compatible task team and each complementary task team. The method of using judges to rate papers and, consequently, determine effective performance of the ambiguous task was utilized by Fiedler (1967, 1972) in validating and extending the Contingency Model of Leadership Effectiveness. This process of determining effectiveness of an ambiguous task is an acceptable practice when judge interrater reliability is established.

Interrater reliability was established when judges rated papers written for the pilot test of this study. Analysis of Variance/ Reliability, SPSS subprogram, was used to determine reliability of those scores which produced a Cronbach Realiability Coefficient of Alpha .8647. Interrater reliability was confirmed by the same process for the position papers written by compatible and complementary teams using the ambiguous task. The interrater reliability of judges' scores on those papers produced a Cronbach Reliability Coefficient of Alpha .8488. A two-tailed t-test was used to determine statistically significant differences in the effective performance of the ambiguous task by compatible and complementary teams. Comparison of the mean score of compatible teams (112.3) to the

mean score of complementary teams (181.2) revealed that complementary teams were significantly more effective than compatible teams in the performance of the ambiguous task. This difference was significant at the .013 Alpha level. See Tables 11 and 12 Appendix A for the presentation of ambiguous task data.

The assumption was made, based on the literature of psychological type, that the major time difference required by compatible and complementary teams in the performance of the ambiguous task would be in reaching consensus on the renewal/nonrenewal contract decision presented in the case study. However, researcher observations and recorded notes indicated it was difficult to determine actual consensus. The task was designed to allow each participant time to study the case, followed by discussion that would lead to agreement and a team decision. Varying times required by participants to study the case, comments concerning the case, and discussion before all participants completed studying the case distorted the recorded time. The researcher observed that some teams reached consensus and discussed other related and non-related subjects prior to notifying the researcher of task completion. In other teams the researcher was notified of consensus and recorded the time. A team member would then make an additional point regarding the case and discussion would then continue for varying periods of time.

Researcher observations revealed that once consensus was reached by compatible teams, the course of action became clear, and these teams completed the task with little discussion. The converse occurred for complementary teams in that consensus and strategy were two seperate and distinct decisions which required further discussion. Observation of the individual psychological type composition of compatible teams revealed a

clear dominance of Sensing/Thinking individuals, a combination of perception and decision making processes that would limit further discussion and move more quickly to a course of action. The composition of complementary teams were more heavily influenced by individuals with a preference for Intuiting and Feeling as perceptual and decision making processes. The perceptual and decision making process differences present in complementary teams accounts for more discussion and consequent time required to complete this phase of the task. The presence of Intuitives influenced teams to reexamine the data because of their tendency to believe all the evidence was not in -- new evidence can affect the decision. The presence of Feelers on complementary teams influenced the teams to discuss personal considerations. This was crucial to Feelers who tend to make decisions based on personal considerations as opposed to the impersonal decision making process of the Thinkers. This influence was more frequent in the ambiguous task than in the structured task because of the highly personal nature of the task to renew or nonrenew a teacher's contract.

Interpretation of the Data

Whereas the nature of the structured task may have limited individual participants from using both ends of the continuum of the four components of psychological type, the ambiguous task may have had the opposite effect. In an ambiguous task there are no clear-cut solutions and a multiplicity of approaches make definite action of the group difficult. The nature of the ambiguous task lends itself to resolution by allowing individuals to utilize the perceptual and decision making process they prefer. Complementary teams consisted of team members with perceptual and decision making differences. Because of these differences, complementary teams were

able to view the case study from a varied perceptual process, revealing data to the entire team which may have been overlooked or did not seem relevant to other team members. The additional data provided a variety of alternatives to be considered in the decision making process. In addition to data available through perceptual differences, complementary teams may have been affected in developing a strategy through the variety of decision making processes present in those teams. The comparative influx of decision making Feelers presented complementary teams the advantage of personal considerations in determining alternative solutions to the case. This advantage was not as readily available to compatible teams which were dominated by Thinkers who tend to make impersonal decisions. The presence of a variety of data and alternative solutions allowed complementary teams to write position papers that gave judges the type of information necessary to concur with the decisions of complementary teams to a greater extent than with compatible teams. Consequently, complementary teams were awarded higher scores which led to a significant difference in their effective performance of the ambiguous task.

Conclusions

This study confirms findings of both small group and contingency theorists which reported that the type of task and interpersonal relations are variables affecting task team performance. However, it appears that psychological type of task team members is weighted more heavily as a factor when performing an ambiguous task than in performing a structured task.

Structured Task

To the degree that a task is clearly specified, verified, and programmed in a step-by-step manner, psychological type of task team

members does not affect either efficient or effective performance of the task by the team. Therefore, the manager may allocate his/her efforts toward other factors that may facilitate task accomplishment. These may include, but are not limited to, providing the resources necessary for task accomplishment including time, equipment, and materials, and providing additional information in the form of task clarification or additional training when technical competency of a group member is lacking in some area.

Ambiguous Task

The implication for managers of task teams performing ambiguous tasks is that the psychological type of the task team members can affect accomplishment of the task. This study has demonstrated that task teams composed of members of different psychological types perform ambiguous tasks more effectively than task teams composed of members of similar psychological types. The study also demonstrated the converse to be true. Compatible teams perform ambiguous tasks more efficiently than complementary teams.

Contingency theorists stress the importance of interpersonal relations of group members in task accomplishment. They also contend that the manager influences group performance by adjusting his/her management style to match the task to be accomplished and the team member attributes. This study suggests that total team interaction and not just the follower's reaction to the manager influences team performance. That, indeed, team performance is not only contingent upon the type of task to be performed, and the environment in which it is performed, but also by the personality characteristics of perception and decision making differences each member brings to the team. It is incumbent upon the team manager to understand

how these similarities and differences can and do affect team performance on the ambiguous task.

The understanding of how personality characteristics of both managers and subordinates affect interpersonal relations becomes increasingly important in today's society. In an attempt to increase organizational efficiency and effectiveness, recent trends in management literature and practices call for increasing employee involvement in the decision making process. The implication for management to increase communications with its employees and to be creative does not imply making decisions quickly (efficiently). The implication is that organizations will become more efficient as the result of effective decisions. Thus, organizational efficiency becomes a product of effective decisions made by management.

This study has implications for involvement of the employee in a creative environment and for increasing effective management decisions. Discovering the right market niche, redesigning the organizational chart or utilizing the available resources for greater productivity are ambiguous tasks.

The utilization of resources is not limited to dollars or materials but also human resources. The management team which capitalizes on the differences in its human resources, instead of allowing these differences to break down into useless conflict, can enhance the position of the organization by increasing its creativity and effectiveness. The manager of the creative task team must establish an environment in which there is an understanding and acceptance of member personality differences. In this task team there is mutual acceptance between the team members who have a perceptual perference for Sensing and Intuition. Sensors bring to the team the ability to be precise, discover pertinent details, and lay decisions

out for a schedule. Intuitives react to the data and look for the best possible options, and have an inner drive to not only accomplish the task but to do it in the most creative and innovative way possible. There is also mutual acceptance between the decision makers who are Feelers and Thinkers. Feelers who make global, right-brained decisions and are driven by personal decisions will accept and be accepted by the left-brained Thinkers who need time to use binary logic to make decisions and will tend to make impersonal decisions.

This study does not imply nor does it intend to imply that psychological type of team members is the only variable that affects task team accomplishment. It is only one variable among many that must be considered in the search for improving the efficiency and effectiveness of organizations.

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APPENDIX A

TABLE 1

Compatible Teams
Psychological Types/Management Tree Styles

		MBTI	Management Tree Style	Sub Style
Team #2	Supt	ESTJ	Manager-Controller	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ISTJ	Organizer	Controller
Team #4	Supt	ESTP	Manager-Inf Manager	
	JrHP	ESTJ	Manager-Controller	
	Elem P	ISFJ	Producer-Entrepreneur	
Team #6	Supt	INTJ	Innovator-Theorists-Futurists	
	HSP	ESTJ	Manager-Controller	
	Elem P	ESTJ	Manager-Controller	
Team #8	Supt	ESTJ	Manager-Controller	
	HSP	ESTJ	Manager-Controller	
	Elem P	ESTJ	Manager-Controller	
Team #10	Supt	INTJ	Innovator-Theorists-Futurists	
	MSP	INTJ	Innovator-Theorists-Futurists	
	Elem P	ISTJ	Organizer-Controller	
Team #12	Supt	ISTJ	Organizer-Controller	
	HSP	ISTJ	Organizer-Controller	
	JrHP	ISTJ	Organizer-Controller	
Team #14	Supt	ISFJ	Producer-Entrepreneur	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ISTJ	Organizer-Controller	
Team #16	Supt	ESTP	Manager-Inf Manager	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ISTJ	Organizer-Controller	
Team #18	Supt	ESTJ	Presenter-Instructor	
	MSP	ESTJ	Presenter-Instructor	
	Elem P	ESTJ	Presenter-Instructor	
Team #20	Supt	ISTJ	Organizer-Controller	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ESTJ	Manager-Controller	

TABLE 2

Complementary Teams
Psychological Types/Management Tree Styles

		MBTI	Management Tree Style	Sub Style
Team #1	Supt	ISFJ	Producer-Entrepreneur	
	HSP	INTJ	Innovator-Theorist-Futurist	
	Elem P	ESTJ	Manager-Coordinator	
Team #3	Supt	ENFP	Communicator-Artist Host	
	HSP	ISFJ	Producer-Entrepreneur	
	Elem	ISTJ	Organizer-Controller	
Team #5	Supt	ISFP	Producer-Trouble Shooter	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ENTJ	Presenter-Instructor	
Team #7	Supt	ESFJ	Counselor-Advisor	
	HSP	INTJ	Innovator-Theorists-Futurists	
	Elem P	ISTP	Organizer-Inf. Manager	
Team #9	Supt	INTP	Innovator-Researcher	
	HSP	ESTJ	Presenter-Instructor	
	Elem P	ENFJ	Communicator-Reformer	
Team #11	Supt	ISTJ	Organizer-Controller	
	HSP	ESTP	Manager-Inf. Manager	
	Elem P	ISFJ	Producer-Entrepreneur	
Team #13	Supt	INTJ	Innovator-Theorist-Futurists	
	HSP	ENTJ	Presenter-Instructor	
	Elem P	ISTP	Organizer-Inf. Manager	
Team #15	Supt	ENTJ	Presenter-Instructor	
	HSP	ISTP	Organizer-Inf. Manager	
	Elem P	ESTJ	Manager-Controller	
Team #17	Supt	ENTJ	Presenter-Instructor	
	HSP	ISTJ	Organizer-Controller	
	Elem P	ESFP	Counselor-Listener	
Team #19	Supt	ISTP	Organizer-Inf. Manager	
	HSP	ESTJ	Manager-Controller	
	Elem P	INTJ	Innovator-Theorists-Futurists	

TABLE 3

Efficiency on Structured Task

Complementary Teams		Compatible Teams	
Team #	Time in Minutes	Team #	Time in Minutes
1	69	2	34
3	36	4	43
5	37	6	50
7	39	8	37
9	41	10	32
11	53	12	35
13	40	14	37
15	46	16	33
17	68	18	52
19	45	20	35
Minimum	36		32
Maximum	69		52
Mean	47.4		38.8

TABLE 4

Comparison of Compatible and Complementary Teams' Mean Scores Regarding Time Required to Perform the Structured Task

Compatible			Complementary			DF	T Value	T Probability
N	$\overline{X}$	SD	N	$\overline{X}$	SD			
10	38.8	7.115	10	47.4	12.176	18	1.9284	.0697

Table 5

Effectiveness on Structured Task

Complementary Teams		Compatible Teams	
Team #	Total Miles	Team #	Total Miles
1	179	2	187
3	181	4	179
5	186	6	179
7	175	8	176
9	178	10	162
11	172	12	178
13	171	14	177
15	180	16	169
17	175	18	172
19	186	20	181
Minimum	171		162
Maximum	186		187
Mean	178.3		176.0

TABLE 6

Comparison of Compatible and Complementary Teams' Mean Scores on the Effective Performance of the Structured Task

Compatible			Complementary			DF	T Value	T Probability
N	$\bar{X}$	SD	N	$\bar{X}$	SD			
10	176.0	6.912	10	178.3	5.208	18	.8404	.4117

TABLE 7

Efficiency on Ambiguous Task

Complementary Teams				Compatible Teams			
Team #	Consensus	Defense Formulation	Total Time	Team #	Consensus	Defense Formulation	Total Time
1	46	36	82	2	51	8	59
3	57	27	84	4	27	24	51
5	69	20	89	6	60	11	71
7	39	20	59	8	39	12	51
9	68	18	86	10	29	8	37
11	52	23	75	12	52	6	58
13	30	7	37	14	20	14	34
15	35	17	52	16	23	12	35
17	57	26	83	18	56	3	59
19	47	22	69	20	44	16	60
Minimum Score	30	7	37		20	3	34
Maximum Score	69	36	89		60	24	71
Mean	50.0	21.6	71.6		40.1	11.4	51.5

TABLE 8

Comparison of Compatible and Complementary Teams' Mean Scores on the Time Required to Reach Consensus

Compatible			Complementary			DF	T Value	T Probability
N	$\bar{X}$	SD	N	$\bar{X}$	SD			
10	40.1	14.594	10	50.0	13.157	18	1.5933	.1285

TABLE 9

Comparison of Compatible and Complementary Teams' Mean Scores on the Time Required by Each Team to Formulate a Defense of Its Position and Write the Position Paper

Compatible			Complementary			DF	T Value	T Probability
N	$\bar{X}$	SD	N	$\bar{X}$	SD			
10	11.4	5.873	10	21.6	7.531	18	3.3776	.0034

TABLE 10

Comparison of Compatible and Complementary Teams' Mean Scores on the Time Required by Each Team to Complete the Ambiguous Task and Write the Position Paper

Compatible			Complementary			DF	T Value	T Probability
N	$\bar{X}$	SD	N	$\bar{X}$	SD			
10	51.5	12.457	10	71.6	17.193	18	2.9938	.0078

TABLE 11

Judge's Scores Ambiguous Task

Complementary					Compatible				
Team	Judge #1	Judge #2	Judge #3	Total	Team	Judge #1	Judge #2	Judge #3	Total
1	48	53	81	182	2	13	16	11	40
3	91	63	73	227	4	78	75	88	241
5	83	35	89	207	6	68	22	64	154
7	76	45	76	197	8	83	52	50	185
9	83	39	50	172	10	45	15	56	116
11	38	19	19	76	12	33	33	56	122
13	77	25	96	198	14	33	24	37	95
15	84	41	88	213	16	27	13	26	66
17	50	51	97	198	18	27	03	30	60
19	36	25	81	142	20	15	06	26	47
Total	666	396	705	1812		422	260	444	1126
Mean	66.6	39.6	75.0	181.2		42.2	26.0	44.4	112.6

TABLE 12

Comparison of Compatible and Complementary Teams' Mean Scores on Effective Performance of the Ambiguous Task

Compatible			Complementary			DF	T Value	T Probability
N	$\bar{X}$	SD	N	$\bar{X}$	SD			
10	112.3	65.630	10	181.2	43.815	18	2.76	0.013